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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/665,920	09/20/2000	Belgacem Haba	RB1-008US	8524
29150	7590	04/20/2004		
LEE & HAYES, PLLC 421 W. RIVERSIDE AVE, STE 500 SPOKANE, WA 99201			EXAMINER PHAN, THANH S	
			ART UNIT 2841	PAPER NUMBER

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/665,920

Applicant(s)

HABA ET AL.

Examiner

Thanh S Phan

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-21 and 23-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-21 and 23-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 1-8, 11-14, 19-21, 23-29, 31-34 and 37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Kollipara et al. [US 6,590,781].

Kollipara et al. disclose a memory module [figure 15a] comprising a substrate [152a] having first and second opposite edges; a plurality of memory devices [153a, b] disposed on the substrate; a plurality of *substantially* linear channel conductors each having lengths that are *approximately* equal extending between the opposite edges, wherein each of the plurality of memory devices is coupled to one of the plurality channels; and electrical contacts at the opposite edges [column 9, lines 4-9].

Regarding claim 7. Kollipara et al. discloses an assembly comprising a first and second substrates [152a and b, figure 15a] each having a plurality semiconductor devices [153a-d] thereon; contacts mounted at each end of the substrates; a plurality of substantially linear channels conductors each having lengths that are approximately equal interconnected between the contacts and the semiconductor devices; and a connector [154] configured to communicatively couple the first and second channels through the contacts of the first and second substrates wherein the first connector engages contact at the end of the first substrate and engages contacts at a first of the end of the second substrate.

Regarding claims 19-21, 23 and 31-38, Kollipara et al. disclose wherein the multiple substrates are being connected to a mother board [150] via connectors [151's].

Regarding claims 24-29, the claimed method steps are inherent to the product structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3 and 15-18, 30, 35, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kollipara et al. [US 6,590,781].

Kollipara et al. disclose the instant claimed invention [figure 15a] except for: the substrate having first and second sides with the plurality of memory devices and channel conductors disposed on both sides thereof.

Kollipara et al. teaches that is known to have a memory module including a substrate having a first and second sides with the plurality of memory devices and channel conductors disposed on both sides thereof [figure 4].

It would have been obvious to a person having ordinary skill in the art at the time invention was made to include a plurality of memory devices and channel on both sides of the device purpose of increasing memory capacity.

Regarding claims 15-18, Kollipara et al. disclose the instant claimed invention except for: the specific number of substrates used.

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use additional substrates with the design of Kollipara et al. for the purpose of providing additional memory capacities.

Regarding claim 29, the claimed method step would have been necessitated by the product structure.

Response to Arguments

Applicant's arguments filed 1/30/04 have been fully considered but they are not persuasive.

Applicant argues:

1. Kollipara does not disclose or suggest a "plurality of channels extending between the opposite edges".

2. Kollipara does not disclose or suggest electrical contact exist at the edge that is in contact with connector 151a and connector 151a is a physical connector, not an electrical connector.

3. Kollipara's busses do not provide communications.

Exmanier disagree:

1. Kollipara does disclose a plurality of channels/busses extending between the opposite edges of a substrate as shown in figure 15a.

2. Kollipara does not specified that connector 151a is a physical or an electrical connector; further if there is no electrical contact needed, than the busses need not to be in contact with the connector 151a and the disclosed structure is an open circuit therefore it is inoperative.

3. A bus as defined by Merriam-Webster's Collegiate Dictionary is "a set of parallel conductors in a computer system that forms a main **transmission path**" which implies communications.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

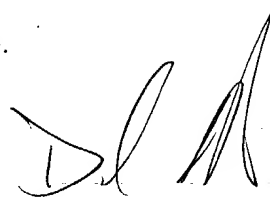
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh S Phan whose telephone number is 571-272-2109. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David S Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tsp



DAVID MARTIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application/Control Number: 09/665,920
Art Unit: 2841

Page 7